Observations of Noisy Pitta nestlings through to fledging

Robert Kyte

22 Madison Drive, Adamstown Heights, NSW 2289, Australia.

INTRODUCTION

The Noisy Pitta comprises two sub-species, *Pitta versicolor simillima* which occurs in Northern Queensland and *Pitta versicolor versicolor* which is found is southern Queensland and southward to the Hunter River area of NSW and beyond. It is a colourful, ground-dwelling bird that spends its time foraging for food on the forest floor. This very secretive bird is more often heard than seen with its lyrical call known as 'walk-to-work'. It is listed as being of least concern by BirdLife International but may be diminishing in numbers due to habitat loss in the lowland regions of its autumn and winter range (Cooper *et al.* 2014). Most records for the Hunter Region come from higher altitude forested gullies and rainforest areas where there are damp conditions suitable for feeding or from lowland observations during winter months. The Noisy Pitta is regarded as being a partial migrant moving toward the lower coastal regions during the winter months and returning to higher altitude breeding grounds in the summer months (Higgins *et al.* 2001).

Noisy Pittas have been recorded at the location regularly over the past six years. A pair were found to be breeding in December 2012 but the nest was predated and the young taken. In late 2016 a juvenile bird was photographed by a local birdwatcher and posted on Hunterbirding, the birdwatchers' chatroom of the Hunter Bird Observers Club (HBOC). This bird showed immature plumage and a striking orange gape and orange tip to the bill which indicated it was likely to be less than two months old (Higgins *et al.* 2001).

The study area

The area covers a south-facing slope of wet sclerophyll remnant rainforest with a creek running along the valley floor from north to east. This remnant rainforest covers <2 hectares and comprises a mixture of native and planted species. The upper canopy comprises a mix of eucalypt trees, planted pines and other native species including Giant Stinging Tree *Dendrocnide excelsa*, Sydney Blue Gum *Eucalyptus saligna*, Turpentine *Syncarpia glomulifera*, Black Wattle *Callicoma serratifolia*, Bollygum *Neolitsea dealbata* and Rosewood *Dysoxylum fraseranum* with the presence of Strangler Fig *Ficus macrophylla*. The mid and lower canopy includes Privet, Sandpaper Fig *Ficus coronata*, Lilli Pilli *Acmena smithii*, Blueberry Ash *Elaeocarpus reticulates*, Bangalow Palm *Archontophoenix cunninghamiana* and Cabbage Palm *Livistona australis*. Abundant ferns include Gristle Fern *Blechnum cartilagineum*, Rainbow Fern *Culcita dubia* and Giant Maiden Hair *Adiantum formosum*. The forest floor is generally open, rich bare soil with decomposing leaf litter, decomposing plant matter and scattered exposed bedrock.

There is a flying-fox colony close by hosting three species of flying-fox, Grey-headed Flying-fox *Pteropus poliocephalus*, Black Flying-fox *Pteropus alecto* and the Little Red Flying-fox *Pteropus scapulatus*.

The Noisy Pitta nest

Few Noisy Pitta nest sites have been found and documented in detail. A Noisy Pitta nest site is described as being beneath a canopy of rainforest with the nest situated usually on the ground: at the base of a tree, between buttress roots or beside a log, rock or tree-fern (Higgins *et al.* 2001). This description appears to relate to nest sites at a higher altitude and does not fully correspond to the nest that is the subject of this short paper. Though not strictly at ground level this nest was on a flat platform which extended out from ground level. The unique siting of this nest sets it apart from the usual description of a Noisy Pitta nest site.

The nest location was 109 masl and situated in a gully with a small creek running down in a south-easterly direction. There was also significant surface run-off from the bat colony down to the nest site and into the creek below. The effect from this could help disguise the scent from the nest and deter

predators (Higgins *et al.* 2001). The nest itself was built on top of a man-made structure of cemented stone blocks that formed the foundation of a wooden footbridge that had fallen into disrepair and rotted away. The structure was covered in thick Wandering Jew *Tradescantia fluminensis* which had engulfed three sides of the structure. *Tradescantia fluminensis* is a succulent creeping plant native to South America but well established in much of the subtropical and temperate rainforests of east coast Australia. It is treated as a weed in many reserves but in this case afforded some protection to the nest site both in its height and dense coverage. The nest overlooked the creek approximately 4 m below. The exterior of the nest comprised a framework of twigs from 2 mm to 3 mm in diameter, dried grasses, and dead leaves which surrounded the entrance. The nest rim was made of smaller twigs <1 mm and the inner chamber was moulded into a cup shape and lined with fine grasses. There was no sign of a platform outside the nest as described in other articles on this species (Snedic 2002). The nest contained three chicks that appeared no more than 3 days old as they were naked with a deep bluish-slate-grey colour, altricial with an orange gape and orange tip to the bill (Higgins *et al.* 2001). My opinion is that this may have been a second brood. A recently fledged juvenile was also recorded in the vicinity.

Observation position

I found a perfect position for viewing the nest from a bank on the opposite side of the creek. A shaded spot at the base of Privet and Sandpaper Fig provided perfect cover and could be accessed undercover from the opposite direction to that of the nest so avoiding any unnecessary disturbance. The observation point looked down onto the site which was approximately 10 m from and 3 m above the nest itself. The adult birds seemed to show no signs of agitation and visited the nest to feed the young soon after I settled in.

Observation schedule

The nest was studied on eight different occasions over the Christmas period from 11 December to 26 December 2016. The average observation period per visit was 3 h with five visits being early morning and three late afternoon. Total hours spent observing the nest were 24.15 h with the longest period spent at the site being the day the young fledged when I left the site after 7.5 h.

Visits to the nest by the adult birds and all noticeable movements of the young were logged in a notepad. Observations were made with Nikon 8x42 binoculars, Nikon x20 Field Scope and approximately 12 h (over 6GB) of recorded material was made using a Sony HDD HandyCam with x120 digital zoom. This recording includes the young calling from the nest, the adults landing with food away from the nest causing the young to leave the nest to receive the food and two of the young fledging.

Nest monitoring

On the day the nest was found, at 0700 h on 11 December 2016, two photographs were taken of three chicks in the nest cavity. There appeared to be a small size difference between the chicks with the larger chick lying on top of the two smaller chicks (**Figure 1**). I immediately sought to position myself a safe distance from the nest for observation. I waited no more than 15 min before an adult with food landed close to the nest. It cautiously approached the nest, stopped at the entrance and leant forward to feed the young. It then jumped into the nest and remained there. At this time I left the nest site to contact a colleague to report the find. On returning to the same observation point a short time later, an adult bird made several attempts at approaching the nest by landing close by and then flying off. On the next approach the bird landed at the nest site, fed the young and flew off with a faecal sac. A short time later two adult birds flew to perches overlooking the nest. One bird, with food in its bill flew direct to the nest and leant into the nest to feed the young showing a bright red vent which would indicate it as being a male bird. It then moved into the nest cavity and stayed there. At this time another Noisy Pitta was seen hopping around at the base of the column that supported the nest. On closer inspection this bird was seen to be a juvenile (**Figure 2**).

Figure 1. Three Noisy Pitta nestlings, approximately 3 days old.

Figure 2. Juvenile Noisy Pitta seen hopping around the base of the nest

Figure 3. Adult Noisy Pitta at nest

The next day of observation was 14 December, a cool, partly cloudy day. There were 14 visits to the nest by the adults in a 2 h period to feed the young and 1 visit to remove a faecal sac. The most notable observation was made at 0702 h when an adult flew to the nest and climbed inside. It could be seen shuffling around inside the nest before settling down. It stayed in the nest and could be seen tending the young while the second adult made several visits with food. The adult in the nest left at 0727 h.

On the 18 December there were 6 visits to the nest by the adult birds in this afternoon period of observation. A notable event was the appearance of a juvenile bird approximately 3 m behind the nest. Within a minute of this observation an adult to the right made a high-pitched 'kieerr' call before flying across the front of the nest and landing in a favoured perch of Sandpaper Fig which hung above the creek overlooking the nest. The juvenile behind the nest moved off to the left and disappeared into the bush. The adult made a bobbing type movement/motion before turning to face the nest and letting out another 'kieerr' call. It then flew off to the right. On each recorded visit to the nest on these two days by the adults, they approached the nest from a perch to the left, spent between 10 and 20 sec feeding young, before flying off to the right.

On 20 December at 0540 h two 'walk-to-work' calls were heard about 100 m from the nest site. Two much softer calls were heard closer to the nest site 15 min later. The downy young could be seen moving around in the nest and the first recorded visit by an adult on this day was at 0655 h. There were 10 visits with food by the adults in two hours. The young were noted to be more vigorous in their begging by leaning out of the nest and they could be heard begging for the first time. Interestingly, on every visit by the adults they flew direct to the nest from a regular perch (Snedic 2002) to the left and then flew off to the left. This pattern continued until the young fledged. On previous days it was noted the adults always flew off to the right. Average time spent at the nest per visit was between 10 and 20 sec and on the majority of occasions when the adults were at the nest they would look around before commencing feeding and immediately after feeding, before flying off.

Over the next four days, up to Christmas Eve, I visited the nest site three times, once during late afternoon and twice in the early morning. During this time the young had grown significantly with feathers developing. They also became more vocal when the adults arrived at the nest. On one occasion on 21 December a small twig fell from a tree, landed at the nest entrance and two chicks popped their heads out of the nest to beg, cuckoo-clock-like, before realising it was a false alarm and tucking themselves back away into the safety of the nest cavity. Their eyes appeared to be closed at this time. It was two days later, on 23 December that the young were more visible leaning out of the nest to be fed. They showed clear signs of feathering with olive cream chest and a vague, dark shade running down the middle with eyes open and orange tip to bill. The young appeared to be aware that an adult had arrived at the perch opposite the nest though no sound could be heard. They would clamber to the front of the nest in anticipation of the adult landing at the nest edge. On each arrival the adult was cautious, looking around before, during and after feeding the young then flying off to the left of my position (**Figure 3**). There were 13 visits to the nest by the adults in just over two hours. On visiting the nest late afternoon on the 24 December the young were seen to be resting their heads on the edge of the nest. An adult visited with food and removed a faecal sac before two of the three chicks perched

themselves on the edge of the nest with the third chick nestled in behind. The young were much more alert and active, even starting to beg vocally several seconds before the adult arrived at the nest (Taylor *et al.* 1995). At one point the larger of the three chicks clambered over the two other chicks and ventured out of the nest into the *Tradescantia* and then back in again. The chick was well feathered with a bright blue rump, olive-green wings, bright blue bar and evident white wing spots. The adults visited the nest only eight times in a two-hour period removing a large faecal sac on three occasions. This observation period was one of the few times that food could be seen in the adult's bill, a sizeable white grub.

I was back at the nest site early morning on 26 December. The first visit by an adult was within five minutes of my arriving and the young were pushing themselves out of the nest to get their share. The chicks filled the nest cavity and each displayed juvenile-like plumage with a distinctive white collar. Once the adult bird left, the chicks hung out of the nest for a short time before two retreated to the back of the nest. One chick in particular was ever present at the edge as if on sentry duty. At one point this chick clambered out of the nest and crawled amongst the *Tradescantia* for two minutes before making its way back into the nest and perched itself on the edge. A short mournful call from an adult bird could be heard coming from the left of my position when the chick picked its head up, focussed on the call and, suddenly at 0735 h, flew from the edge of the nest off to the left in the direction of the call and in the direction from where the adults had approached the nest for the past few days.

Within the next 20 minutes there were a further two visits to the nest by the adults with food with one faecal sac being taken away. Overall there were nine visits by the adults in the first 60-minute period of observation on this day. From this point on, the short mournful call could be heard intermittently from about 15-20 m away. There was one more visit from an adult with food at 0813 h and the two remaining chicks perched on the edge of the nest calling alternately in a two-tone call similar to the mournful whistle that encouraged the first chick to leave the nest. The two young often picked at insects around the nest while waiting for the adults to arrive and at one point both were out of the nest amongst the *Tradescantia* but soon found comfort back on their perch. At 1001 h two adults flew to perches close to the nest at the same time. One flew in and landed about 0.5 m from the nest causing the young to clamber out to meet the adult with food and the young stayed outside the nest for over a minute before crawling back to the nest. There was another visit to the nest by an adult a short time after and five minutes later another visit where the adult landed in front of the nest causing the young to come out and meet the adult. The adult flew off without seemingly feeding the young. The young again returned to the nest and were very active moving around within the nest chamber and hopping onto the edge of the nest. There continued to be heard a faint melancholy whistle from off to the left and at 1040 h there was the last visit to the nest site by an adult bird when it brought food close to the nest forcing the chicks to come out to meet the adult and feed. Once it had fed the young it took a faecal sac from outside the nest and flew to the left. At 1058 h without notice one of the chicks took off from the *Tradescantia* and flew to the left. An adult bird arrived within a split second but did not stay. For the next two hours the lone chick moved around the nest, sat on the edge, preened and called in response to the adult call. At 1315 h I noticed the calls from the adult seemed to be getting further away and coming from a different direction. At 1315 h they stopped. The chick continued to call and appeared more agitated, hopping in and out of the nest and dropping a faecal sac at the edge of the nest. At 1332 h, it then moved 2 m out of the nest and sat on an exposed ledge calling constantly. The vulnerable chick remained in this position until suddenly it flew from the ledge to the left in the same direction as the other fledglings.

After nearly eight hours at the nest site I had witnessed all three nestlings fledging at 18 days old. The first chick fledged at 0730 h and the last fledged at 1346 h.

The nest site was visited on two separate days after the young had fledged and on both occasions there was no sighting of the birds nor any calls heard.

Food

The general lighting underneath the canopy at the nest was poor for much of the observation period. On only a few occasions could food be seen in the mouths of a visiting adult even though the adults were definitely feeding the young. At the times food was visible there appeared to be worms, grubs and beetles dangling from the bill of the adult.

CONCLUSIONS

Breeding usually occurs between October and December and is widespread throughout much of

the species' range but mainly in Northern New South Wales along Western Slopes and major rivers and tributaries (Woodall 1994). The brood size and nestling period of the subject nest corresponds with existing literature (Higgins *et al.* 2001) though there is scarce material relating to pairs having two broods (Beruldsen 2003), particularly in the same nest. I believe it is possible that two broods were reared from this nest as a fledged juvenile visited the active nest site on two separate occasions. Further study is required to confirm this fact. Records of nesting in an urban environment should be regarded as unusual as there are no other records. The presence of a suitable, tranquil habitat with a ready supply of food in a rainforest environment has played a key role in attracting Noisy Pittas to this region.

ACKNOWLEDGEMENTS

I would like to thank Greg Little at General Flora and Fauna, Alan Stuart for his assistance and photography and Dr Richard Noske for reviewing this paper. I would also acknowledge the support of Newcastle City Council.

REFERENCES

Beruldsen, G. (2003). Australian Birds, their nests and eggs. (Beruldsen: Kenmore Hills).

Cooper, R. M., McAllan, A. W., Brandis C., and Curtis, B. R. (2016). 'An Atlas of the Birds of NSW and the ACT Volume 2'. (Mini Publishing: Gordon.)

Higgins, P. J., Peter, J. M., and Steele, W. K. (Eds) (2001). 'Handbook of Australian, New Zealand and Antarctic Birds Volume 5: Tyrant-flycatchers to Chats'. (Oxford University Press: Melbourne.)

Snedic, M. (2002). Jewels of the Forest Floor. *Wingspan* **12**(**1)**: 8-11.

Taylor, P. and Taylor, P. (1995). Observations on Nesting Noisy Pittas. *Australian Bird Watcher* **16**: 39-41.

Woodall, P.F., (1994). Breeding season and clutch size of the Noisy Pitta in tropical and subtropical Australia. *Emu* **94**: 273-277.